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Reply to Office action of 03/30/2006

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REMARKS/ARGUMENTS

In reply to the Office Action mailed March 30, 2006, Applicant respectfully requests reconsideration and allowance. In the Office Action, claims 1-20 were rejected for anticipation and obviousness and claim 17 was objected to due to an informality. In reply, Applicant has amended claims 11 and 17. Accordingly, claims 1-20 remain pending in the subject application.

Independent claim 11 was rejected for anticipation under 35 U.S.C. §102(b) over U.S. Patent 4,481,106 (the "Verachtert patent"). In reply, Applicant has amended claim 11 to recite that the permeable shield through which all the hydrocarbon product and aqueous alkaline solution must pass extends across the entire lateral cross-section of the reactor vessel. The Verachtert patent only discloses an annular shield 8. Consequently, the hydrocarbon and caustic mixture can descend below the lower edge of the wall 7 through the screen 8 and up to the outlet 10 without seeing all the catalyst that is disposed below the wall 7 and adjacent to the screen 8. Consequently, catalyst volume is wasted which is not contacted by the hydrocarbon contaminated with mercaptans. Whereas, in the claimed invention, no catalyst is wasted. All the hydrocarbon that enters the reactor vessel through inlet 52 contacts all the catalyst bed before descending through the screen to be separated. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 11 for anticipation and, at least for the same reasons, claims 12-16 depending from claim 11.

Claims 1 and 20 were rejected for obviousness over U.S. Patent 4,019,869 (the "Morris patent") in view of U.S. Patent 3,216,927 (the "Dresser patent"). Claim 1 recites an outlet conduit in communication with the hydrocarbon outlet and residual alkaline removal unit in communication with the outlet conduit. In other words, the hydrocarbon outlet is fed to a residual alkaline removal unit without going through a settler tank. It is customary, as shown in the HYDROCARBON PROCESSING reference dated April 1982 disclosed in the Information Disclosure Statement filed with the patent application that in jet fuel Merox sweetening, the effluent from the fixed catalyst bed is sent to a caustic settler from which hydrocarbon and caustic are separated with only the hydrocarbon

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product being sent to a residual alkaline removal unit such as a water wash vessel. The settler/treater 14 in the Dresser patent does not include a solid catalyst as recited in claim 1. Caustic is added at line 12 to the hydrocarbon in line 16 and introduced to the settler/treater 14. Consequently, separation is already performed in the settler/treater 14 in several stages. Consequently, the hydrocarbon in effluent line 18 from the settler/treater 14 has already been subjected to several stages of separation before it is delivered to the water wash settler 26. The present application teaches that hydrocarbon effluent from a reactor vessel containing a fixed bed of catalyst can be directed to a residual alkaline removal unit such as a water wash vessel without having to first be processed in a caustic settler. Accordingly, the claimed invention uses one vessel whereas the art thought that two vessels were needed for the service. The Dresser patent teaches taking hydrocarbon effluent from a settler with several stages of separation to a water wash settler. The Dresser patent does not suggest that hydrocarbon effluent from a reactor vessel with a solid catalyst bed, such as the reactor in the Morris patent, is sufficiently free of caustic to be delivered to a water wash vessel to obtain a hydrocarbon stream with sufficient purity, especially for jet fuel service. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 for obviousness. For at least the same reasons, Applicant respectfully requests allowance of claims 2-10 depending from claim 1.

Claim 17 was rejected for obviousness over the Verachtert patent in view of U.S. Patent 4,199,440 (the "second Verachtert patent"). In reply, Applicant has amended claim 17 to recite that the shield extends across the entire lateral cross-section of the reactor vessel. As explained with respect to claim 11, because all of the hydrocarbon products must pass through the fluid-permeable shield which extends across the entire lateral cross-section of the reactor, the hydrocarbon reactant is exposed to all the catalyst in the catalyst bed. Consequently, no volume of the catalyst bed is wasted. Accordingly, Applicant respectfully submits that claim 17 is unobvious over the two Verachtert patents. For at least the same reasons, Applicant respectfully submits that claims 18-20 which depend from claim 17 are also not obvious.

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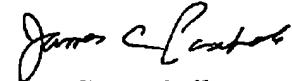
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Applicant has also amended claim 17 to remove the unnecessary instance of the term "a" in line 13 of claim 17.

In reply to the provisional obvious-type double patenting rejection of claims 1-20 over U.S. Application 10/690,311, Applicant has submitted a terminal disclaimer with respect to the same. Applicant respectfully requests reconsideration and withdrawal of the rejection.

For the foregoing reasons, Applicant respectfully requests reconsideration and allowance of all of the claims in the subject application. The Examiner is welcome to contact the undersigned to discuss this matter further.

Respectfully submitted,



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